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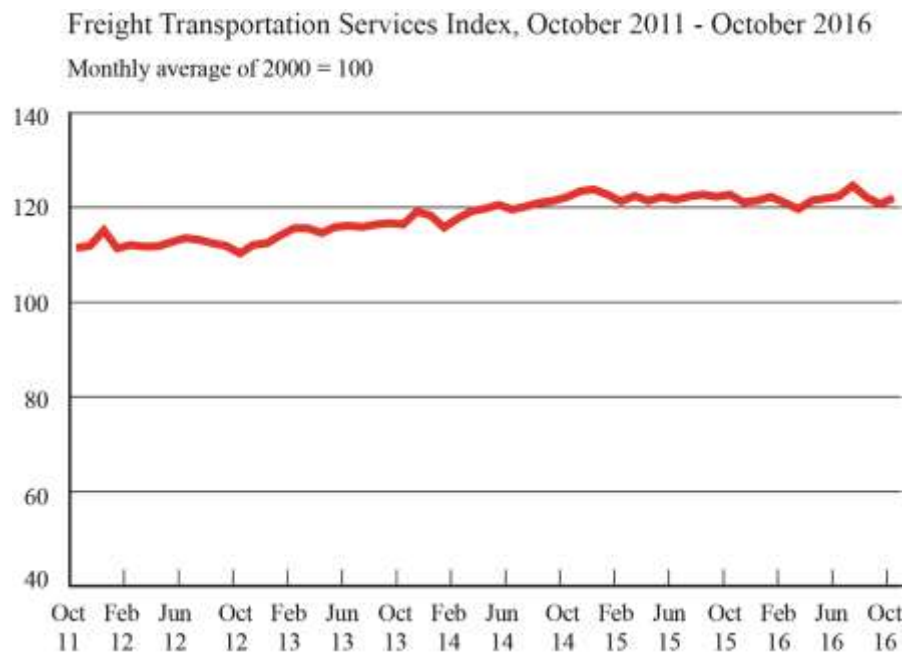
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October 2016 Freight Transportation Services Index (TSI)

The Freight Transportation Services Index (TSI), which is based on the amount of freight carried by the for-hire transportation industry, rose 1.0 percent in October from September, rising after two months of decline, according to the U.S. Department of Transportation's Bureau of Transportation Statistics' (BTS). The October 2016 index level (122.0) was 28.8 percent above the April 2009 low during the most recent recession (Tables 1, 2, and 2A).



The level of freight shipments in October measured by the Freight TSI (122.0) was 2.1 percent below the all-time high level of 124.6 in July 2016 (Table 2A). BTS' TSI records begin in 2000. See historical [TSI data](#).

The September index was revised to 120.8 from 121.5 in last month's release. Monthly numbers for January through August remained virtually unchanged.

The Freight TSI measures the month-to-month changes in freight shipments by mode of transportation in tons and ton-miles, which are combined into one index. The index measures the output of the for-hire freight transportation industry and consists of data from for-hire trucking, rail, inland waterways, pipelines and air freight.

Analysis: The 1.0 percent rise in the October Freight TSI from September was due to growth in trucking and rail intermodal, while all other modes declined (data on individual modes are [seasonally adjusted](#) by BTS). The October increase took place alongside growth in other economic indicators – employment increased by 161,000 jobs, retail sales increased by 0.8 percent, personal income increased by 0.6 percent, and housing starts rose by 25.5 percent. The [Federal Reserve Board Industrial Production index](#) was unchanged in October as its mining and manufacturing components increased while utility output declined.

Trend: The 1.0 percent Freight TSI increase in October was the third largest monthly increase since November 2014. The increase followed two months of declines, and left TSI 2.1 percent below the all-time high level of 124.6 reached in July 2016. Since the beginning of 2015, the index has been extremely stable as it fluctuated above and below 122. It has deviated only twice by more than 1 percent from the 122 level – in March 2016 when it fell 1.9 percent below 122 to a two-year low and in July 2016 when it rose 2.1 percent above 122 to reach an all-time high. The index has risen 28.8 percent since the low of 94.8 in April 2009. For additional historical data, go to [TSI data](#).

Index highs and lows: Freight shipments in October 2016 (122.0) were 28.8 percent higher than the low in April 2009 during the recession (94.7). The October 2016 level was 2.1 percent below the historic peak reached in July 2016 (124.6) (Table 1A).

Year to date: Freight shipments measured by the index were up 0.4 percent in October compared to the end of 2015 (Table 3).

Long-term trend: Freight shipments are up 9.4 percent in the five years from October 2011 and are up 10.1 percent in the 10 years from October 2006 (Table 5).

Same month of previous year: October 2016 freight shipments were down 0.6 percent from October 2015 (Tables 4, 5).

The TSI has three seasonally adjusted indexes that measure changes from the monthly average of the base year of 2000. The three indexes are freight shipments, passenger travel and a combined measure that merges the freight and passenger indexes. See [Seasonally-Adjusted Transportation Data](#) for numbers for individual modes. TSI includes data from 2000 to the present. Release of the November 2016 index is scheduled for Jan. 11.

Passenger Index: The TSI for passengers was unchanged from September to October level (Table 6). The Passenger TSI October 2016 level of 123.5 was 0.9 percent below the October 2015 level (Table 7). The index is up 7.1 percent in five years and up 10.7 percent in 10 years (Table 5). The passenger TSI measures the month-to-month changes in travel that involves the services of the for-hire passenger transportation sector. The seasonally adjusted index consists of data from air, local transit and intercity rail.

Combined Index: The combined freight and passenger TSI rose 0.7 percent in October from its September level (Table 8). The combined TSI October 2016 level of 122.6 was 0.6 percent below the October 2015 level (Table 9). The combined index is up 8.8 percent in five years and up 10.2 percent in 10 years (Table 5). The combined TSI merges the freight and passenger indexes into a single index.

Revisions: Monthly data has changed from previous releases due to the use of concurrent seasonal analysis, which results in seasonal analysis factors changing as each month's data are added. In addition to the regular monthly revisions, with the December update BTS incorporated revised trucking data for months beginning January 2011, which affects the seasonal analysis of the data series.

BTS research has shown a clear relationship between economic cycles and the Freight and Passenger Transportation Services Indexes. See a [study of this relationship](#) using smoothed and detrended TSI data. Researchers who wish to compare TSI over time with other economic indicators, can use the [FRED database](#), which includes freight, passenger and combined TSI, and which makes it possible to easily graph TSI alongside the other series in that database. See [TSI data on FRED](#).

For a webinar on the TSI, see [Past Webinars](#). For a video explanation of the TSI, see [Overview of the Transportation Services Index](#). A BTS report explaining the TSI, [Transportation Services Index and the Economy](#), is available for download.

Table 1: Freight, Passenger and Combined Transportation Services Indexes since April 2016

Percent Change from Previous Month
(Seasonally Adjusted, Monthly Average of 2000 = 100)

	Freight		Passenger		Combined	
	Index	Pct. Change	Index	Pct. Change	Index	Pct. Change
April	121.5	1.5	124.0	1.4	122.4	1.5
May	121.9	0.3	124.2	0.2	122.7	0.2
June	122.4	0.4	125.6	1.1	123.4	0.6
July	124.6	1.8	124.5	-0.9	124.7	1.1
August	122.2	-1.9	122.9	-1.3	122.5	-1.8
September	120.8	-1.1	123.5	0.5	121.8	-0.6
October	122.0	1.0	123.5	0.0	122.6	0.7

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

Table 1A: Annual High and Low Points in Freight Transportation Services Index, 2009-2016

Year	Month	Peak	Month	Bottom
2009	December	101.5	April	94.7
2012	June	113.5	October	10.3
2013	November	119.1	January	114.2
2014	December	123.8	January	115.8
2015	January	122.7	November	121.1
2016 (thru October)	July	124.6	March	119.7

SOURCE: Bureau of Transportation Statistics

Table 2: Freight Transportation Services Index Monthly Changes, 2013-2016
Percent change from previous month

	2013	2014	2015	2016
	% Change	% Change	% Change	% Change
January	1.5	-2.1	-0.9	0.7
February	1.2	1.6	-1.1	-1.1
March	0.0	1.3	1.0	-1.1
April	-0.9	0.5	-0.9	1.5
May	1.1	0.7	0.7	0.3
June	0.3	-0.8	-0.5	0.4
July	-0.3	0.5	0.6	1.8
August	0.4	0.7	0.2	-1.9
September	0.3	0.3	-0.3	-1.1
October	-0.3	0.7	0.3	1.0
November	2.3	1.1	-1.3	
December	-0.7	0.2	0.3	

SOURCE: Bureau of Transportation Statistics

Table 2A: Freight Transportation Services Index by Month, 2013-2016

	2013	2014	2015	2016
January	114.2	115.8	122.7	122.3
February	115.6	117.7	121.3	121.0
March	115.6	119.2	122.5	119.7
April	114.6	119.8	121.4	121.5
May	115.9	120.6	122.3	121.9
June	116.2	119.6	121.7	122.4
July	115.9	120.2	122.4	124.6
August	116.4	121.0	122.7	122.2
September	116.7	121.4	122.3	120.8
October	116.4	122.2	122.7	122.0
November	119.1	123.5	121.1	
December	118.3	123.8	121.5	

SOURCE: Bureau of Transportation Statistics

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Table 3: Freight, Passenger and Combined Transportation Services Indexes Year-to-Date Change, 2007-2016
Percent change to October from December of the previous year

Year	Freight	Passenger	Combined
2007	0.0	2.5	0.7
2008	-3.1	-3.1	-3.1
2009	-2.0	-0.5	-1.5
2010	6.2	4.1	5.6
2011	2.5	1.9	2.3
2012	-4.3	-2.0	-3.6
2013	3.5	1.5	2.8
2014	3.3	2.1	3.0
2015	-0.9	3.1	0.2
2016	0.4	-0.7	0.1

SOURCE: Bureau of Transportation Statistics

Table 4: Freight Transportation Services Index from Year-to-Year
Percent Change in the October Freight TSI
(Monthly average of 2000 = 100)

	October Freight TSI	Percent change from same month previous year
2007	110.7	-0.1
2008	107.3	-3.1
2009	98.3	-8.4
2010	107.8	9.7
2011	111.5	3.4
2012	110.3	-1.1
2013	116.4	5.5
2014	122.2	5.0
2015	122.7	0.4
2016	122.0	-0.6

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

**Table 5: Transportation Services Indexes from Previous Years
Percent Change to 2016 (October to October)**

Since October ...	Duration in years	Freight TSI Percent change to October 2016	Passenger TSI Percent change to October 2016	Combined TSI Percent change to October 2016
2015	1	-0.6	-0.9	-0.6
2014	2	-0.2	2.6	0.7
2013	3	4.8	5.0	5.0
2012	4	10.6	8.9	10.2
2011	5	9.4	7.1	8.8
2010	6	13.2	7.5	11.5
2009	7	24.1	12.4	20.4
2008	8	13.7	9.6	12.4
2007	9	10.2	6.1	8.9
2006	10	10.1	10.7	10.2

SOURCE: Bureau of Transportation Statistics

**Table 6: Passenger Transportation Services Index Monthly Changes, 2013-2016
Percent change from previous month**

	2013 % Change	2014 % Change	2015 % Change	2016 % Change
January	0.9	-0.2	-0.7	-0.8
February	-0.2	-0.3	-1.3	0.5
March	-0.5	2.1	2.4	-1.4
April	0.7	-0.1	0.2	1.4
May	-0.1	0.5	0.2	0.2
June	0.7	-0.7	0.4	1.1
July	-0.9	0.2	2.0	-0.9
August	0.8	0.5	-1.6	-1.3
September	0.0	-0.2	0.4	0.5
October	0.1	0.2	1.1	0.0
November	0.9	-0.7	-1.0	
December	-0.6	1.0	0.9	

SOURCE: Bureau of Transportation Statistics

Table 7: Passenger Transportation Services Index from Year-to-Year
Percent change in the October Passenger TSI
(Monthly average of 2000 = 100)

	October Passenger TSI	Percent change from same month previous year
2007	116.4	4.3
2008	112.7	-3.2
2009	109.9	-2.5
2010	114.9	4.5
2011	115.3	0.3
2012	113.4	-1.6
2013	117.6	3.7
2014	120.4	2.4
2015	124.6	3.5
2016	123.5	-0.9

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

Table 8: Combined Transportation Services Index Monthly Changes, 2013-2016
Percent change from previous month

	2013 % Change	2014 % Change	2015 % Change	2016 % Change
January	1.3	-1.4	-0.9	0.2
February	0.8	0.9	-1.2	-0.6
March	-0.2	1.6	1.5	-1.1
April	-0.3	0.3	-0.6	1.5
May	0.8	0.6	0.6	0.2
June	0.3	-0.8	-0.2	0.6
July	-0.4	0.5	1.0	1.1
August	0.5	0.6	-0.4	-1.8
September	0.2	0.2	0.0	-0.6
October	-0.2	0.5	0.5	0.7
November	1.9	0.6	-1.1	
December	-0.7	0.5	0.5	

SOURCE: Bureau of Transportation Statistics

Table 9: Combined Transportation Services Index from Year-to-Year
Percent change in the October Combined TSI
(Monthly average of 2000 = 100)

	October Combined TSI	Percent change from same month previous year
2007	112.6	1.2
2008	109.1	-3.1
2009	101.8	-6.7
2010	110.0	8.1
2011	112.7	2.5
2012	111.3	-1.2
2013	116.8	4.9
2014	121.7	4.2
2015	123.3	1.3
2016	122.6	-0.6

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

Brief Explanation of the TSI

The Transportation Services Index (TSI) is a measure of the month-to-month changes in the output of services provided by the for-hire transportation industries. The freight index measure changes in freight shipments while the passenger index measures changes in passenger travel.

The TSI tells us how the output of transportation services has increased or decreased from month to month. The index can be examined together with other economic indicators to produce a better understanding of the current and future course of the economy. The movement of the index over time can be compared with other economic measures to understand the relationship of changes in transportation output to changes in Gross Domestic Product (GDP).

The freight transportation index consists of:

For-hire trucking,

Railroad freight services (including rail based intermodal shipments such as containers on flat cars),

Inland waterways transportation,

Pipeline transportation (including principally petroleum and petroleum products and natural gas), and

Air freight.

The index does not include international or coastal waterborne movements, private trucking, courier services, or the US Postal Service.

The passenger transportation index consists of:

Local transit,

Intercity passenger rail, and

Passenger air transportation.

The index does not include intercity bus, sightseeing services, ferry services, taxi service, private automobile usage, or bicycling and other non-motorized transportation.